

ASHUMOV, G.G.; NASIROV, A.B.; HAMAZOV, I.I.; MIRDZHAYADOVA, M.M.

Quantitative analysis of the Siazan' petroleum and Karadag gas condensate for cyclohexane, methyl- and dimethylcyclohexane to be used as raw materials in the production of synthetic fibers. Azerb.neft.khoz. 38 no.12:34-36 D'59. (MIRA 13:10)
(Cyclohexane) (Textile fibers, Synthetic)

ASHUMOV, G.G.; NASIROV, A.B.; YOSYPIN, A.S.

Investigation of the individual hydrocarbon composition of the
gasoline fraction of the Karadag gas condensate. Azerb.khim.zhur.
no.1:13-16 '60. (MIRA 14:9)
(Karadag--Condensate oil wells) (Hydrocarbons)

GINSBURG, I.S.; NASIROV, A.B.

Some peculiarities in the pathogenesis and clinical aspects of
tuberculous lymphadenitis with an external and mesenterial loca-
lization. Azerb.med.shur. no.2:14-18 P '60. (MIRA 13:5)
(LYMPHATICS--TUBERCULOSIS)

ZUL'FUGARLY, D.I.; ASHUMOV, G.G.; MUSAYEV, M.R.; NASIROV, A.B.

Macroelements in petroleum ashes of Azerbaijan [in Azerbaijani
with summary in Russian]. Azerb.khim.zhur. no.2:149-152 '60.
(MIRA 14:8)

(Azerbaijan--Petroleum--Analysis)

ASHUMOV, G.G.; CHIRPAS, S.I.; NASIROV, A.B.

Studying the composition and properties of tar fractions in the
Kyurevdag petroleum, fuel oil and oil tar. Azerb.neft.khes. 39
no.9:39-42 8'60. (MIRA 13:10)
(Kyurevdag region--Petroleum--Analysis)

ASHUMOV, G.G.; NASIROV, A.B.; ISMAILZADE, I.G.; MAMEDOV, F.A.

Individual hydrocarbon composition of the gasoline fraction of
Mishovdag petroleum. Azerb. khim. zhurn. no. 33-39 '61. (MIRA 14:11)
(Mishovdag—Petroleum) (Hydrocarbons)

MASTROV, A. B.; ASHUMOV, G. G.; ISMAILZADE, I. G.; KOSTYKHIN, A. S.

Individual hydrocarbon composition of the gasoline fraction of
Kyurovdag crudes. Azerb.khim.shur. no.4:15-21 '61.

(MIRA 14:11)

(Kyurovdag—Petroleum—Analysis)
(Hydrocarbons)

SHARASHINIDZE, Sh.S.; ASHUMOV, G.G.; NASIROV, A.B.; ISMAIL-ZADE, I.G.;
MAMEDOV, F.A.

Investigating the individual composition of the gasoline fraction
of Sakhn oil of the Sangora District of the Georgian S.S.R.
Azerb.khim.shur. no.5:23-30 '61. (MIRA 15:5)
(Sangora District--Petroleum--Analysis)

ZUL'FUGARLY, D.I.; NASIROV, A.B.

Transformation of petroleum hydrocarbons. Uch. zap. AGU. Ser.
fis.-mat. i khim. nauk no.5:103-111 '61. (MIRA 16:6)
(Petroleum products)

ASHUMOV, G.G.; NASIROV, A.B.; MELIK-ZADE, M.M.

Study of the individual hydrocarbon composition of the gasoline
fraction from Siazan oil. Azerb. neft. khoz. 40 no.1:37-38
Ja '61. (MIRA 14:8)
(Siazan' region—Hydrocarbons)

NASIROV, A.B.; ASHUMOV, G.G.; GASANOV, N.A.

Hydrocarbon composition of gasoline fractions obtained from
petroleum of Peschanyy Island. Azerb.neft.khoz. 41 no.3:36-39
Mr '62. (MIRA 15:8)
(Peschanyy Island--Gasoline)

ASHUMOV, G.G.; NASIROV, A.B.

Determining the cyclohexane hydrocarbon content in Mishovdag
and Kyurovdag oils. Azerb. neft. khoz. 40 no.5:38 My '61.
(MIRA 16:12)

ASHUMOV, G.G.; NASIROV, A.B.; ISMAILZADE, I.G.; GYUL', E.K.; MAMEDOV, F.A.

Hydrocarbon composition of gasoline fractions obtained
from Karadag waxy crudes (Put. Supra-Kirmaki sand series).
Azerb. khim. zhur. no.1:23-29 '64. (MIRA 17:5)

USSR/General Problems of Pathology - Tumors. Comparative
Oncology - Human Neoplasms.

U.

Abs Jour : Ref Zhur - Biol., No 19, 1958, 39731

Author : Nasirov, A.M.

Inst : Azerbydzhan State Institute for the Advanced Training of
Physicians.

Title : Chronic Disorders and Cancer of the Large Intestine.

Orig Pub : Sb. tr. Azerb. gos. in-ta usoversh. vrachey, 1957, vyp 3,
157-159.

Abstract : An analysis of the case histories of 68 patients with
malignant neoplasms of the large intestine (of those,
57 carcinomas of the rectum) was made. The greatest
number of cases occurred in the age group of 51-60, the
smaller - in 15-30 years. Thirty-nine patients had bac-
terial dysentery in their past history, 2 - prolapse of

Card 1/2

NASIROV, A.M., kand.med.nauk

Pseudomycomas of appendicular in the abdominal cavity. Azerb.med.
shur. no.2:98-99 F '58 (MIRA 11:12)

1. Iz kafedry onkologii (zav. - saslyzhennyy deyatel' nauki, prof.
I.S. Ginsburg) Azerbaydzhanskogo instituta usovershenstvovaniya
vrachey (direktor - M.I. Aliyev) na baze Instituta rentgeno-
radiologii (direktor - dotsent M.M. Alikishibekov).
(ABDOMEN--TUMORS)

SHAKOV, I.I.; ~~NASIROV, A.M.~~

Clinical-roentgenological picture of prolapse of the mucous
membranes of the antral part of the stomach into the duodenal
bulb. Vop. onk. 6 no. 8:49-56 Ag '60. (MIRA 14:1)
(STOMACH—DISEASES)

L 16034-65 EWT(m)/EPF(c)/EWP(j)/T Pe-L/Pr-L AFWL/SSD/ASD(m)-3/AS(mp)-2/AFETR/
ACCESSION NR: AP4045800 RAEM(a)/ESD(t) 9/0062/64/000/009/1697/1700

RAEM(c) RM

AUTHORS: Nasirov, F.M.; Karpacheva, G.P.; Davy*dov, B.E.; Krentsel',
B.A.

TITLE: Structure of the soluble complex organometallic catalyst for
acetylene polymerization

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 9, 1964, 1697-1700

TOPIC TAGS: acetylene polymerization catalyst, complex organometal-
lic catalyst, structure, chemical behavior, triethylaluminum, vana-
dium acetylacetonate, triethylaluminum vanadium acetylacetonate
catalyst, tetravalent vanadium, divalent vanadium, magnetic suscepti-
bility, EPR spectrum, magnetic moment, g-factor

ABSTRACT: The structure and the chemical nature of the active cen-
ters of the acetylene polymerization catalyst complex formed by
reaction of triethylaluminum with vanadium acetylacetonate were
examined. The catalyst, prepared by mixing $VC_{10}H_{14}O_5$ with a four-
fold excess of $Al(C_2H_5)_3$ in benzene at room temperature, appeared
homogeneous. It was proposed that the formation of the active cata-
lytic complex took place according to the reaction shown in the

Contd 1/3

1. 16034-65

ACCESSION NR: AP4045800

enclosure in which the tetravalent vanadium was reduced to the divalent. The magnetic susceptibility and the EPR spectra of the vanadium acetylacetonate and of the complex were examined. The magnetic moment for $\text{VO}(\text{OAc})_2$ determined from the reverse molar magnetic susceptibility-temperature (120-300K range) relationship, was 1.67 ; for the complex, 3.83 . Similar values for magnetic moment were calculated from g-factors obtained from EPR spectral data, confirming divalency of the vanadium in the complex. Orig. art. has: 3 figures and 2 equations.

SUB MATER: 80

NR REP SCV: 002

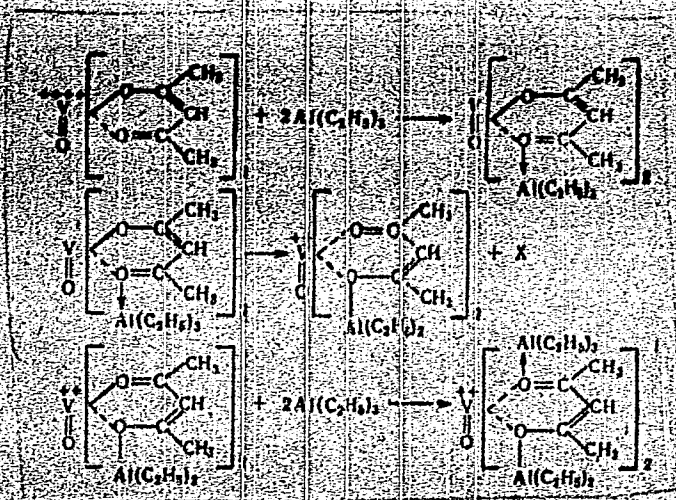
OTHER: 004

Core 2/3

16031-65
ACCESSION NR:

AP4045800

ENCLOSURE: 01 0



Card 3/3

NASIROV, F.M.; KRENTSEL', B.A.; DAVYDOV, B.E.

Acetylene polymerization process with a soluble catalytic system based on $AlEt_3$ and $VO(acetylacetonate)_2$. Izv. AN SSSR. Ser. khim. no.6:1009-1016 '65.

(MIRA 18:6)

1. Institut neftekhimicheskogo sinteza imeni Topchiyeva AN SSSR.

L 62793-65 EWT(m)/EPF(c)/KPB/EMP(j)/T/EMA(o) Pc-4/Pr-4/Ps-4 WW/JAJ/RM
 ACCESSION NR: AP5018457

UR/0364/65/001/007/0876/0880
 621-315.592:547

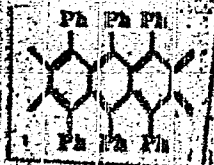
AUTHOR: Davydov, B. E.; Demidova, G. M.; Masirov, F. M.; Pirtakhulava, R. N.; Rozenshteyn, L. D.

TITLE: Synthesis of polydiphenyldiacetylenes and their electrical and physical properties

SOURCE: Elektrokimiya, v. 1, no. 7, 1965, 876-880

TOPIC TAGS: polymerization synthesis, acetylene, thermal stability, catalysis, photoelectric current

ABSTRACT: The article is concerned with the investigation of the properties of thermally polymerized diphenyldiacetylene, having the following structure



Cord 1/6

L 62793-65

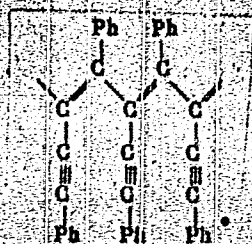
ACCESSION NR: AP5018457

The fact that all hydrogen atoms of the main chain are replaced by phenyl groups accounts for its solubility in chloroform, benzene, ether, dioxane, dimethylformamide and for its high thermal stability. It may be heated as high as 500° C without any significant decomposition. The polymer is a nonfusible dark brown substance. When it is deposited from solution on a substrate it forms a relatively strong film. The kinetic polymerization curves at different temperatures are shown in Fig. 1 of the Enclosure. The cryoscopic data indicates that the molecular weight of the polymer is 1100. Experiments with polymer films show that upon interaction with oxygen under the influence of light this polymer does not have a tendency to form inner peroxides. Diphenyldiacetylene was also polymerized catalytically using a complex catalyst, produced during interaction of triethylaluminum and vanadyl acetylacetonate. The polymer obtained was also soluble in benzene, chloroform and other organic solvents. The thermal stability of this polymer was somewhat lower than in the polymers produced by thermal initiation. The lower stability is explained by the presence of the following structures in the chain

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L 62793-65

ACCESSION NR: AP5018457



The photoelectric conductivity of thermal polymers is observed in the region where they absorb light. The spectral dependence of the photoelectric current reduced to the same amount of energy incident on the specimen is in good agreement with the absorption spectrum (Fig. 2 of the Enclosure). Catalytic polymers displayed no photoelectric conductivity. An attempt was made to measure the dark current, but it was possible to record it only when the field strength exceeded $2 \cdot 10^4$ V/cm. Orig. art. has: 5 figures.

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR (Petrochemical Synthesis Institute Academy of Sciences SSSR)

Card 3/6

L 62793-65

ACCESSION NR: AP5018457

Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors Academy of Sciences SSSR)

SUBMITTED: 09Feb65

ENCL: 02

SUB CODE: OC, EM

NO REF SOV: 005

OTHER: 000

Card 4/6

1. 68793-65

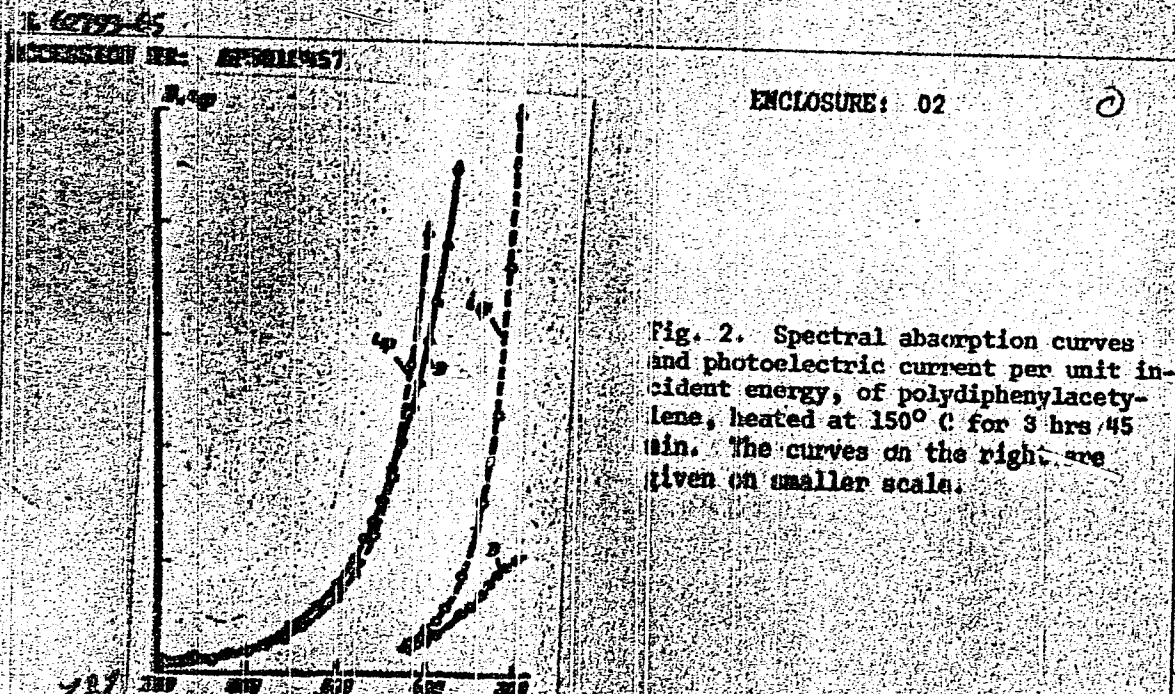
ACCESSION NR: AF5014957

ENCLOSURE: 01



Fig. 1. Kinetic curves for thermal polymerization of diphenyldiacetylene at 106° C (1) and 133° C (2)

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L 30387-66 EWP(j)/EWT(m)/I IJP(c) RM

ACC NR: AP6019550

SOURCE CODE: UR/0190/66/008/006/1138/1138

AUTHOR: Nasirov, F. M.; Lelyukhina, Yu. L.; Krentsel', B. A.

44
B

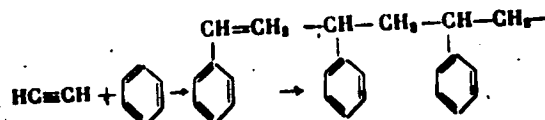
ORG: none

TITLE: Polymerization of acetylene in benzene on the $Al(C_2H_5)Cl_2$ catalyst

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 6, 1966, 1138

TOPIC TAGS: polymerization, acetylene, benzene, polystyrene, POLYMERIZATION CATALYST

ABSTRACT: Polymerization of acetylene in benzene on the $Al(C_2H_5)Cl$ catalyst yielded a white powder which was soluble in chlorinated hydrocarbons and certain other solvents. The product was identified by IR spectroscopy as polystyrene. Measurements of the intrinsic viscosity of the polymer in toluene at 25C indicated that its molecular weight is comparatively low. It is suggested that in the experiment, benzene is vinylated by acetylene to form styrene which is immediately polymerized:



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UDC: 66.095.264+678.76

L 30387-66

ACC NR: AP6019550

Further study of the process and of the properties of polystyrene formed are in progress. Orig. art. has: 1 formula. [BO]

SUB CODE: 07, 11/ SUBM DATE: 13Jan66/ ATD PRESS: 5017

Card 2/2 CC

NASIROV, M. (Sungait, Azerbaydzhanskaya SSR)

Together with the workers, ~~Fosh.delo 4 no.12125 D 158.~~
(MIRA 11:12)
(Factories--Fires and fire prevention)

BORODKIN, Yu.S.; NASIROV, S.Kh.

Electroencephalographic analysis of the effect of pyrazoledicarboxylic acids on the central nervous system. Farm. i toks. 28 no.1:8-13 Ja-F '65. (MIRA 18:12)

1. Otdel farmakologii (zav. - dyestvitel'nyy chlen AMN SSSR prof. S.V.Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad. Submitted November 5, 1963.

L 2018-66

ACCESSION NR: AF5022065

UR/0249/65/021/005/0075/0077

AUTHOR: Nasirov, S. N.

20
B

TITLE: Effect of VVU on yield and quality of wheat

SOURCE: AN AzerbSSR. Doklady, v. 21, no. 5, 1965, 75-77

TOPIC TAGS: wheat, organometallic compound, fertilizer, plant growth/ VVU organometallic compound

ABSTRACT: The following is a translation of a Russian summary of an article written in Azerbaidzhanian on the effect of VVU [Abstractor's note: Abbreviation expansion not found] in stimulating the growth of wheat. Field and laboratory investigations have demonstrated that wheat productivity has increased considerably with VVU treatment. The quality and weight of wheat have been improved. The natural weight (or volume weight) of wheat is one of the basic indices and is useful as an early indicator of flour milling and baking qualities. VVU is a complex organometallic compound derived from the chemically treated wastes of three factories (iodine, sulfuric acid, and electric bulb) located in Baku. Two series of VVU experiments were staged: one with

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L 2018-66

ACCESSION NO: AF5022085

a nitrophosphate fertilizer and one without. In both series the wheat seeds (Arandary, Sevindsh, Arzu, and Bel-bugda varieties) were treated with VVU before sowing and twice during the vegetation period, and the plants were sprayed manually with a 0.05% VVU solution. The conclusion is drawn that the use of VVU and a nitrophosphate fertilizer produces a higher yield and higher quality of wheat than without the fertilizer, and also higher than controls. Orig. art. has: 1 table.

ASSOCIATION: None.

SUBMITTED: 13Dec63

ENCL: 00

SUB CODE: 12

PER REP SV: 000

OTHER: 000

Case 1/2 of

NASIROV, YA. N.

SOV/124-57-5-5293

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 27 (USSR)

AUTHORS: Karasharly, K. A., Kerimov, I. G., Nasirov, Ya. N., Rozlovskiy, A. I., Shaulov, Yu. Kh.

TITLE: On the Conditions Conducive to the Inception of Instability of Normal Combustion (K voprosu ob usloviyakh vozniknoveniya neustoychivosti normal'nogo goreniya)

PERIODICAL: Dokl. AN AzSSR, 1955, Vol 11, Nr 12, pp 819-823

ABSTRACT: An experimental investigation of flame propagation in methane-oxygen and acetylen-oxygen mixtures aimed at an evaluation of the lower boundary of Reynolds numbers at which the transition zone from normal to detonational combustion begins. The experiments were made in transparent rubber balloons up to 20 liters in volume. No detonation was observed during the combustion of the methane-oxygen mixtures; the beginning of flame acceleration corresponds to Reynolds numbers of the order of 4 to 10×10^4 . Bibliography: 5 references.

B. V. Raushenbakh

Card 1/1

NASIKOV, Ya. N.

Chem! Two-flame combustion of nitrogen dioxide-hydrogen mixture. Ya. N. Nasikov and V. Kh. Shaulov. Doklady Akad. Nauk S.S.S.R. 108, 868-70 (1966). The $\text{NO}_2\text{-H}_2$ flame in a spherical flask with central ignition was photographed on a rotating film during combustion by the method described by Bozlovskii (C.A. 10, 163034). The photographs showed a 2-flame combustion process sep. by a time interval t (induction period) of the order of several thousandths of a sec. The explanation was advanced that NO_2 is reduced in the 1st flame, and the 2nd combustion of the total process proceeds adiabatically by the Mach effect (Die Physik der Verbrennungsvorgänge, 1918) (C.A. 13, 904)). The compn. and conditions of the primary combustion products in the 1st flame are not as yet properly understood and require addnl. study. W. M. Sternberg

2

pm

NASIROV, YA. N.

Combustion of a mixture of nitrogen dioxide and hydrogen in the closed space. Ya. N. Nasirov and Y. Kh. Shaulya. Doklady Akad. Nauk Azerbaidzhan. S.S.R. 13, 378-9 (1967) (Russian summary). -- Two successive propagations of flames were observed in the combustion of a mixt. of $\text{NO}_2 + \text{H}_2$ with the time interval $J = 19 \times 10^{-4}$ to 40×10^{-4} sec. The J depends on the compn. of mixt. and pressure (20-250 mm. Hg). The min. value of J was observed in the mixt. where the velocity of flame was max. The max. value corresponds to the ratio $\text{NO}_2/\text{H}_2 = 0.70$ but not to the placement of max. to the rule of a mixt. rich in H_2 is due probably to the autocatalysis of NO_2 . The velocity of flame in the mixt. ($\text{NO}_2/\text{H}_2 = 0.6$) can be regarded as directly proportional to the sq. root of the pressure, in the stoichiometric mixt. to the 4th root, and in the mixt. rich in NO_2 to the 6th even 7th root. The order of the reaction changes with the compn. of mixt. from 2 to 2.3 and can be considered as a 2nd-order reaction. The value of heat of activation is 23 kcal./mol. The preliminary expts. with the mixt. of NO_2 and C_2H_2 showed that in this reaction also takes place two combustion flames. The max. velocity of flame was observed in the mixt. $\text{NO}_2/\text{C}_2\text{H}_2 = 0.24$. M. Chirmande.

4E3
4E4

in the mixt. NO₂/CH₄ = 0.24. max. velocity of M. Chirmandarjan
MTI

NASIROV, Ya. N., Cand Phys-Math Sci -- (diss) ^{Combustion} "Oxidation of the mixtures of hydrogen and methane with nitrogen dioxide." Baku, 1958. 11 pp. (Min Higher Ed USSR, Azerbaydzh State Univ in S. M. Kirov), 100 copies. (KL, 9-58, 112)

11.1000

65848

SOV/81-59-22-77802

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 22, p 73 (USSR)

AUTHOR: Nasirov, Ya.N.TITLE: Burning of Mixtures of Nitrogen Dioxide With Hydrogen and Methane in a Closed Volume

PERIODICAL: Tr. in-ta fiz. i matem. AS AzerbSSR, 1958, Vol 9, pp 138 - 154 (Azerb. summary)

ABSTRACT: The normal flame rate (NR) in H_2-NO_2 mixtures was measured by the photographic method in a spherical flask with central kindling at α 1 - 1.75. The NR maximum (2 m/sec) corresponds to $\alpha = 1.58$ which differs from the data obtained earlier (RZhKhim, 1954, Nr 5, 17830), according to which the NR maximum is equal to 2.5 m/sec at $\alpha = 2$. NR increases with the pressure $\sim p^a$, where $a = 1/2, 1/4, 1/6$, at $\alpha = 1, 2$ and 2.5, respectively. Diluting the mixture with nitrogen, the author determines the activation energy (23 kcal/mole) from the NR decrease with the lowering of the flame temperature. In the case of diluting the mixture with another combustion product (NO),

Card 1/2

65048

SOV/81-59-22-77802

Burning of Mixtures of Nitrogen Dioxide With Hydrogen and Methane in a Closed Volume

a considerable inhibiting effect of NO on the reaction in the flame is observed side-by-side with the lowering of the temperature. Photographing of $\text{CH}_4\text{-NO}_2$ mixtures under the same burning conditions detected the propagations of two consecutive flames, the interval between which is at a minimum in mixtures with a maximum NR value.

A. Sokolik

Card 2/2

BAKIROV, M.Ya.; ABDULLAYEV, G.B.; NASIROV, Ya.N.; TALIBI, M.A.

Studying the effect of certain factors on the characteristics
of selenium photocells. Izv. AN Azerb. SSR. Ser. fiz.-mat. i tekhn.
nauk no.5:65-74 '59. (MIRA 13:3)
(Selenium cells)

BAKIROV, M.Ya.; ABDULLAYEV, G.B.; NASIROV, Ya.N.; TALIBI, M.A.

Effect of the degree of crystallization of selenium on the
characteristics of photoelectric cells. Izv. AN Azerb. SSR Ser.
fiz.-mat. i tekhn. nauk no.5:93-99 '59. (MIRA 13:3)
(Selenium cells)

S/194/61/000/006/035/077
D201/D302

AUTHORS: Abdullayev, G.B., Nani, R.Kh. and Nasirov, Ya.N.
TITLE: Investigating the thermal and electric properties
of indigenous cobaltite
PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 6, 1961, 2, abstract 6 D8 (Izv. AN AzerbSSR,
Ser. fiz.-matem. i tekhn. n, 1960, no. 3, 55-58)
(Azerbaijdzhan summary)

TEXT: Temperature dependence was investigated of electric con-
ductance σ , thermal conductivity K and of thermal emf α of in-
digenous cobaltite, σ was measured in the temperature range
20-650°C, at room temperature σ has the value $12.8 \times 10^{-2} \text{ ohm}^{-1}$
 cm^{-1} . With an increase of temperature to 530°C, σ increases 5
times and decreases with further temperature increase. At room
temperature α is 33.0 microvolt per degree. The maximum value
of α equal to 90 microvolt per degree corresponds to a tempera-

Card 1/2

Investigating the thermal...

S/194/61/000/006/035/077
D201/D302

ture of 480°C. With temperature increasing from room temperature
to 100°C the K of cobaltite increases 5 references. [Abstrac-
ter's note: Complete translation]

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Card 2/2

ABDULLAYEV, G.B.; BAKIROV, M.Ya.; GASYMOV, R.B.; NASIROV, Ya.N.

Investigating the formation of a p-n junction in selenium
photocells. Part 1: Effect of the material of the top electrode.
Izv. AN Azerb. SSR. Ser.fiz.-mat. i tekhn. nauk no.4:66-72 '60.
(MIRA 14:3)

(Photoelectric cells) (Selenium)

ABDULLAYEV, G.B.; GASIMOV, R.B.; BAKIROV, M.Ya; NASIROV, Ya.N.

Heat-resistant selenium photocells. Izv.AN Azerb.SSR.Ser.fiz.-
mat.i tekhnauk no.5:79-84 '60. (MIRA 14:4)

(Photoelectric cells) (Selenium)

S/058/62/000/003/054/092
A061/A101

24-3300
26 2420

AUTHORS: Abdullayev, G. B., Bakirov, M. Ya., Gasyimov, R. B., Nasirov, Ya. N.

TITLE: Selenium photocells with CdO, CdS, CdSe, and CdTe layers

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1962, 22, abstract 3G184
("Izv. AN AzerbSSR. Ser. fiz.-matem. i tekhn. n.", 1960, no. 6,
77-83, Azerb. summary)

TEXT: Selenium photocells were developed, in which CdO, CdSe, CdS and CdTe films about $5 \cdot 10^{-5}$ cm thick were sputtered in vacuum onto the selenium crystal surface before mounting the upper electrode. The photo-emf and the short-circuit current were determined as functions of exposure to light. The temperature and spectral characteristics of the photocells were also determined. The photo-emf was found to arise by the contact of two semiconductors with different types of conductivity. The upper electrode material is not important here. /c-

[Abstracter's note: Complete translation]

Card 1/1

ABDULLAYEV, G.B., BAKIROV, M.Ya., GELIER, I.Kh., NASIROV, Ya.I.

**Effect of bromine on the characteristics of selenium photocells.
Dokl.AN Azerb.SSR 16 no.4:323-326 '60. (MIRA 13:7)**

- 1. Institutu fiziki AN Azerbaydzhanskoy SSR.
(Bromine) (Photoelectric cells)**

S/058/62/000/005/092/119
AC61/A101

AUTHORS: Antonov, V. B., Nani, R. Kh., Nasirov, Ya. N.

TITLE: A study of thermoelectric properties of natural cobaltite single crystals

PERIODICAL: Referativnyy zhurnal, Fizika, no. 5, 1962, 33, abstract 5E264
("Izv. AN AzerbSSR. Ser. fiz.-matem. i tekhn. n.", 1961, no. 4, 33-36 Azerb. summary)

TEXT: As is shown, natural cobaltite single crystals display typical semi-conductor properties. The activation energy is of the order of 0.762 ev at 310 - 560°K, 0.65 ev at 180 - 280°K, and of the order of 0.2 ev at 120 - 160°K. At $T \leq 110^\circ\text{K}$, $\Delta E = 0$. The coefficient of thermo-emf at room temperature is $\sim 90 \mu\text{V}/^\circ\text{C}$; on a rise of temperature it drops to $\sim 50 \mu\text{V}/^\circ\text{C}$; at 150°C and above, up to 500°C, it remains practically constant.

[Abstracter's note: Complete translation]

Card 1/1

ANTONOV, V.B.; NANI, R.Kh.; NASIROV, Ya.N.

Physical properties of ternary semiconductor compounds. Izv. AN
Azerb. SSR. Ser.fiz.-mat. i tekhnauk no.5:75-78 '61. (MIRA 15:2)
(Semiconductors)

Study of monocrystalline n-TlSe and its rectifying properties.
G. A. Akhundov, G. B. Abdulayev, I. G. Aksianov.

(Not presented).]

Electro-physical properties of monocrystalline TlSe. G. A. Akhundov,
G. B. Abdulayev, G. D. Guseynov, N. Kh. Aliyeva.

[Investigation of the electrical properties of germanium telluride.
G. B. Abdulayev, V. B. Antonov, Ya. N. Nasirov.

On studies of and some properties of monocrystalline GaTe and GaS.
G. A. Akhundov, G. B. Abdulayev, N. A. Gasanova, F. I. Ismailov.

[Investigation of some physical properties of the monocrystalline
compounds CuSbS_2 and CuSbSe_2 . G. B. Abdulayev, R. Kh. Nani, Ya. N.
Nasirov, T. G. Osmanov.

Report presented at the 3rd National Conference on Semiconductor Compounds,
Kishinev, 16-21 Sept 1963

ABDULLAYEV, G.B.; ANTONOV, V.B.; NANI, R.Kh.; NASIROV, Ya.M.

Some properties of CuSbSe_2 single crystals. Trudy Inst. fiz. AN Azerb.
SSR 11:42-45 '63. (MIRA 16:4)
(Copper-antimony-selenium alloys) (Crystallography)

ACCESSION NR: AP4027709

S/0233/63/000/006/0083/0086

AUTHORS: Abdullayev, G.B.; Mami, R.Kh.; Nasirov, Ya.M.

TITLE: Investigation of the physical properties of ternary semiconductor compounds. II. Certain properties of CuSbS sub 2 monocrystals

SOURCE: AN AzerbSSR. Izvestiya. Seriya fiz.-matem. i tekhn. nauk, no. 6, 1963, 83-86

TOPIC TAGS: semiconductor, ternary compound, physical property, CuSbS sub 2, monocrystal, polycrystal, preparation, thermoelectric property, synthesis, thermoelectromotive force, energy of activation, zone melting, heat conductivity, electric conductivity

ABSTRACT: Samples of CuSbS₂ polycrystals and monocrystals were prepared and their thermoelectric properties investigated. CuSbS₂ was prepared by elementary synthesis, and heating with agitation at 1500K for 8-10 hours under 10^{-4} mm Hg. vacuum. The material, remelted at 1200K, was uniform with no traces of crystals and showed semiconductor properties. Its electric conductivity increases from 0.08 to 7.0 ohm⁻¹ cm⁻¹ with an increase in temperature from room

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ACCESSION NR: AP4027709

temperature to 700K while its thermoelectromotive force decreases with temperature from 950 to 120 microvolts/°K from room temperature to 700K. The energy of activation of the polycrystalline material is $\Delta E = 0.24$ ev. CuSbS_2 monocrystals were obtained by zone melting under 2 atmospheres argon with supplementary heating in the non-melting zone to 10-15K below the melting temperature of the compound. For the monocrystals at room temperature, electric conductivity is $0.024 \text{ ohm}^{-1} \text{ cm}^{-1}$ and thermo e.m.f. is 1200 microvolts/°K. Melting temperature is 535C. It was specifically determined that the electric conductivity increases with temperature (E in the 300-500K range - 0.8 ev.), and that the thermo e.m.f. drops with an increase in temperature; monocrystals and polycrystals follow essentially the same relationship. It was further found that the heat conductivity decreases from 80 to 300K and then increases; its minimum is at room temperature. Orig. art. has: 1 table and 4 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 17Apr64

ENCL: 00

SUB CODE: PH
Card 2/2

NR REF SOV: 005

OTHER: 002

L 21124-65 EWT(m)/EWF(b)/EWP(t) IJP(c)/ASD(a)-5/AS(mp)-2/ESD(gs) RDW/JD
ACCESSION NR: AP5001564 S/0233/64/000/004/0083/0087

AUTHORS: Antonov, V. E.; Nasirov, Ya. N.

TITLE: Concerning the structure of the valence band in germanium telluride 27

SOURCE: AN AzerbSSR. Izvestiya. Seriya fiziko-tehnicheskikh i matematicheskikh nauk, no. 4, 1964, 83-87

TOPIC TAGS: germanium telluride, valence band, band structure, thermal emf, Hall constant, carrier density

ABSTRACT: The anomalies in the temperature dependence of the thermal emf of germanium telluride at high temperatures is explained by making use of a model wherein the valence band consists of two sub-bands displaced relative to each other by an energy gap $\Delta\epsilon$; these sub-bands have different effective masses. Equations are derived for the Hall constant and thermal emf on the basis of this model, and are

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L 21124-65

ACCESSION NR: AP5001564

3

compared with the results obtained for a GeTe sample with carrier density $5.5 \times 10^{20} \text{ cm}^{-3}$ (N. B. Kolomoys et al., FTT, v. 6, No. 3, 1964, 706--713). Fairly good agreement between theory and experiment can be obtained if the value of the gap is assumed to lie between 0.35 and 0.4 eV and the ratio of effective masses is equal to 17. Similar calculations were made also for a carrier concentration $8.0 \times 10^{20} \text{ cm}^{-3}$. Although the agreement is far from perfect, this model affords a better explanation of the experimental data than earlier models. The slow rise in the thermal emf with increasing temperature up to about 300K and the sharp increase above 300K cannot be reconciled with the model of a simple valence band. "The authors thank Professor G. B. Abdullayev, B. M. Askerov, and F. M. Gashimzade for interest in the work and for valuable advice." Orig. art. has: 3 figures and 11 formulas.

ASSOCIATION: None

Card 2/3

21124-65

ACCESSION NR: AP5001564

SUBMITTED: 00

ENCL: 00

SUB CODE: 88

NR REF SOV: 001

OTHER: 003

Cord 3/3

ACCESSION NR: AP4041385

S/0048/64/028/006/1096/1099

AUTHOR: Abdullayev, G.B.; Nani, R.Kh.; Nasirov, Ya.N.; Osmanov, T.G.

TITLE: Investigation of some physical properties of copper antimony sulfide and copper antimony selenide single crystals [Report, Third Conference on Semiconductor Compounds held in Kishinev 16 to 21 Sep 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.6, 1964, 1096-1099

TOPIC TAGS: semiconductor, semiconductor property, copper compound, antimony compound, sulfur compound, selenide compound, single crystal study

ABSTRACT: CuSbS_2 and CuSbSe_2 were synthesized, single crystals were grown, some physical properties of the materials were measured, and the results are presented graphically. The reagents were spectroscopically pure sulfur, electrolytic copper, 99.999% selenium, and "grade Su-000" antimony. Synthesis was by melting in vacuo with mechanical vibration. The melt was cooled slowly to 1500°K and held at that temperature for 8 to 10 hours. The ingots were homogenized by remelting at 1200°K . Single crystals were produced by zone refining in an argon atmosphere with the use of an auxiliary heater. Eighteen to twenty passes were made at 12 mm/hour. X-ray

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ACCESSION NR: AP4041385

diffraction studies showed the resulting specimens to be single crystals with somewhat distorted structure due, possibly, to the anisotropy of the thermal expansion coefficient. The electric conductivity, thermal conductivity, thermal emf and Hall coefficient were measured over various temperature ranges between 80 and 700°K. It was possible to measure the Hall coefficient of the sulfide only at room temperature because of the low mobility of the current carriers. The electric conductivity of both compounds increased with increasing temperature over the complete range investigated. The activation energy in the sulfide was 0.25 eV below 500°K and 0.75 eV above this temperature. In the selenide the activation energy was 0.16 eV below 350°K and 0.43 eV above 400°K. The slope of the resistivity-temperature curve for the selenide was very small between 350 and 400°K. The increase of activation energy at the higher temperatures was not observed in the polycrystalline materials. The thermal emf of both compounds decreased monotonically with increasing temperature. The thermal conductivity of both materials decreased with increasing temperature at low temperatures and increased with increasing temperature at high temperatures. The minimum occurred at 273°K for the sulfide and 300°K for the selenide. The behavior at low temperatures is ascribed to Cu-Sb ordering, and that at high temperatures to energy transport by electron-hole pairs. The compound with the lower molecular weight had the greater thermal conductivity, in accord with the views

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ACCESSION NR: AP4041385

of L.S.Stil'bans, B.A.Yefimova and L.M.Stavitskaya (Fiz.tverdogo tela,1,1325,1959).
The mobility of the current carriers in the selenide was proportional to $T^{-3/2}$ at
the lower temperatures and to $T^{-5/2}$ at the higher. Orig.art.has: 9 figures and 1
table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: SS, IC

NR REF SOV: 008

OTHER: 003

Card 3/3

ANTONOV, V.B.; NASTROV, Y.I.

Structure of the valence band in germanium telluride. Izv. AN SSSR Ser. fiz.-tekh. i prikl. nauk no. 4:83-87 '64.

(MIRA 18:3)

L 34899-65 EWT(1)/EWT(m)/ENG(m)/T/ENP(t)/ENP(b)/EWA(c) PZ-6/PS-4 LJP(c) RDM/
ACCESSION NR: AP5005162 JD/AT 8/0233/64/000/005/0069/0072

AUTHOR: Nina, R. Kh.; Nasirov, Ya. N.; Osmanov, T. G.

TITLE: Thermoelectric properties of the system $\text{CuSbTe}_2\text{--SnTe}$

SOURCE: AN AzerbSSR. Izvestiya. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 5, 1964, 69-72

TOPIC TAGS: thermoelectric property, telluride compound, thermocouple, thermal emf, thermal conductivity

ABSTRACT: Interest in the possible use of alloys of this type for the construction of thermocouples is due to the fact that a continuous series of solid solutions can be made up of the components. The authors derive an equation for the thermal emf as a function of the temperature and discuss the discrepancy between the theoretical and experimental results. It is shown that in the case of a two-band model the thermal emf can be expressed as a bilinear function of the ratio of the carrier concentrations. Plots of the electric conductivity, the lattice temperature conductivity, and the carrier concentration and mobility against the composition at

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ACCESSION NR: AP5005162

room temperature are also presented. The results show that with increasing concentration of the tin telluride in the solution, the electric conductivity and the carrier concentration increase, and the mobility decreases. The dependence of the lattice thermal conductivity has a minimum at a component ratio 1:1, thus confirming the presence of a continuous series of solid solutions in the system of the two components. It is shown that a composition with 80% SnTe and 20% CuSbTe₂ yields the most effective material, probably due to the fact that the ratio of the effective mass to the electron mass is maximum for this composition. Orig. art. has: 3 figures and 12 formulas.

ASSOCIATION: None

Card 2/2

1. LSI-44 RT(a)/RP(a)/RC/RC(a)/T/RP(b)/RP(c) LJP(c) RM/3D
 ACCUMULATED NO: 22700179 00/0035/62/000/000/0079/0082

AUTHOR: Prof. R. B. Ponomarev, Ph. D.; Gerasimov, T. G.

TITLE: Investigation of the thermal properties of the system $\text{CuSbTe}_{1-y}\text{Sb}_y$

SOURCE: AN Academiya. Investiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk, no. 2, 1969, 79-82

TOPIC NAME: copper alloy, tin containing alloy, telluride, thermal conduction, thermal property

ABSTRACT: The authors investigated the dependence of the thermal and electric properties of the system $[\text{CuSbTe}]_{1-y}[\text{SbTe}]_y$ on the composition (y), for values of $y = 0, 0.2, 0.4, 0.6, 0.8$, and 1.0 . Expressions based on the Nernst-Einstein law were used to calculate the reduced chemical potential μ^0 , the lattice and electronic components of the thermal conductivity, and the thermal resistance of the solid solution for the investigated compositions of the system. The results show that the thermal conductivity of the lattice has a minimum at $0.4 < y < 0.6$. The results indicate that the system $\text{CuSbTe}_{1-y}\text{Sb}_y$ can form a continuous series of solid solutions. Orig. art. has: 1 figure, 8 formulas, and 2 tables.

ADDITIONAL: none

Card 1/2

09011021

L 1581-66

ACCOUNT NO: 1581-66

REMARKS: 00

RECEIVED: 00

DATE: 00, 10

IN NEW YORK: 00

CLASS: 00

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L 04976-67 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG/AT

ACC NR: AP6030801

SOURCE CODE: UR/0249/66/022/005/0012/0013

AUTHOR: Abdullavev, G. B.; Nasirov, Ya. N.; Feyziyev, Ya. S.

ORG: Institute of Physics, AzerbSSR (Institut fiziki AzerbSSR)

TITLE: Effect of partial substitution of lanthanum for tin on the thermoelectrical properties of SnTe

SOURCE: AN AzerbSSR. Doklady, v. 22, no. 5, 1966, 12-13

TOPIC TAGS: tin telluride, lanthanum telluride, telluride, thermoelectric property

ABSTRACT: Thermoelectric properties of homogeneous, single-phase specimens of $[\text{SnTe}]_{1-x}[\text{LaTe}]_x$ alloy, where x is equal 0.02—0.08, have been investigated. The curve of composition dependence of thermal emf, at room temperature, was found to have a maximum of about $49 \mu\text{V}/^\circ\text{K}$ at $x = 0.02$ compared to $20 \mu\text{V}/^\circ\text{K}$ for SnTe, where the concentration of holes drops to a minimum of $3.47 \cdot 10^{19}/\text{cm}^3$ compared to $2 \cdot 10^{21} \text{ cm}^{-3}$ for SnTe. The lattice heat conductivity changes correspondingly from $6.2 \cdot 10^{-3} \text{ cal/cm} \cdot \text{deg} \cdot \text{sec}$ for SnTe to $5.4 \cdot 10^{-3} \text{ cal/cm} \cdot \text{deg} \cdot \text{sec}$. The hole mobility reaches a maximum of $1080 \text{ cm}^2/\text{v} \cdot \text{sec}$ at $x = 0.01$, compared to $25 \text{ cm}^2/\text{v} \cdot \text{sec}$ for SnFe. It is assumed that partial replacement of tin by lanthanum brings about a recovery of the SnTe lattice and simultaneously generates the new defects in connection with formation of SnTe-LaTe solid solutions. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: 12Mar65/ ORIG REF: 001/ OTH REF: 003/

[WW]

Cord 11/14

L 07251-67 EWT(1)/EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD/JW
 ACC NR: AP6028920 SOURCE CODE: UR/0233/66/000/001/0090/0095
 AUTHOR: Antonov, V. B.; Nasirov, Ya. N. 66
 ORG: none 65
 TITLE: Thermoelectric properties of the solid solution GeTe-CuSbTe_2 B
 SOURCE: AN AzerbSSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk, no. 1, 1966, 90-95
 TOPIC TAGS: germanium alloy, telluride, copper containing alloy, antimony alloy, solid solution, thermoelectric property, carrier density, energy band structure, temperature dependence
 ABSTRACT: In view of the use of the solid solution in question for thermoelectric converters, the authors have investigated the thermoelectric properties of solid solutions containing 98, 96, 94, and 92% GeTe, whose microstructure reveals that they are single-phase. Plots were prepared of the electric conductivity, the thermoelectric power, the thermal conductivity, and the carrier density as functions of the solid-solution composition at room temperature. At low concentrations (up to ~4 mol.%) of CuSbTe_2 , a sharp decrease of the carrier density was observed. With increasing content of CuSbTe_2 , the carrier density decreased less sharply. The carrier mobility, calculated on the basis of measurements of the Hall constant, increased by more than double up to 4 mol.%, and then started to decrease. This is attributed to the filling of the vacancies by the atoms of copper and antimony. The temperature dependences of

Card 1/2

L 07251-67

ACC NR: AP6028920

the thermoelectric properties were measured in the interval 300 - 800K and were found to be a complicated function of the temperature for all four compositions of the solid solution. This is attributed to the complicated structure of the valence band. The proposed valence band structure is presented and the irregularities in the temperature dependence are explained on this basis. The temperature dependence of the electric conductivity and of the Hall mobility are also measured and are shown to exhibit a similar anomalous character connected with the complexity of the valence band. The Hall mobility exhibits a regular variation of the form $\mu \sim T^{-x}$, where x ranges from -1.6 for the solid solution having the lowest carrier density (92% GeTe) to -3.1. The former is close to the theoretical value ($x = -3/2$) for the case of scattering by thermal oscillations of the crystal lattice. It is thus concluded that the carrier mobility in the solid solution is governed by two mechanisms of scattering, by the lattice defects and by the acoustic lattices vibrations. With increasing temperature, scattering by acoustic vibrations prevails. The authors thank Professor G. B. Abdullayev for interest in the work and for valuable advice. Orig. art. has: 7 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001

Card 2/2 *fl*

L 10335-67

ACC NR: AFG028211

SOURCE CODE: UR/0249/66/022/002/0011/0013

AUTHOR: Abdullayev, G. B.; Nasirov, Ya. M.; Osmanov, T. O. 25

ORG: Institute of Physics (Institut fiziki)

TITLE: Influence of partial replacement of tin by Si, Ge, and Pb on the electric and thermal properties of SnTe

SOURCE: AN AzerbSSR. Doklady, v. 22, no. 2, 1966, 11-13

TOPIC TAGS: tin compound, telluride, semiconductor carrier, thermoelectric power, temperature dependence, impurity center, carrier density, solid solution

ABSTRACT: The purpose of the study was to determine the effect of impurities on the anomalous behavior observed in the concentration and temperature dependences of the thermal emf (α) of SnTe. The investigations were carried out on single-phase and homogeneous samples of composition $[\text{SnTe}]_{1-x}[\text{SiTe}]_x$, $[\text{SnTe}]_{1-x}[\text{GeTe}]_x$, and $[\text{SnTe}]_{1-x}[\text{PbTe}]_x$ with $x = 0.02 - 0.08$. Measurements of the dependence of the thermal emf on the composition at room temperature show that for all three substitutions a maximum is observed at $x = 0.02$. With increasing x , the thermal emf first decreases and then rises again until it reaches at $x \geq 0.1$ a value corresponding to the solid solution of the corresponding system. A similar behavior is observed in the dependence of the carrier density (n) on the composition at room temperature, which exhibits a minimum at $x = 0.02$. The higher the atomic weight of the substituting element, the lower the carrier density, which decreases from $2.1 \times 10^{21} \text{ cm}^{-3}$ to $6 \times 10^{19} \text{ cm}^{-3}$ when the tin is

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L 10335-67

ACC NR: AP6028211

replaced with lead. An anomalous extremum is observed also at $x = 0.02$ in the dependence of the thermal conductivity of the lattice on the composition at room temperature. The results are attributed by the authors to a simultaneous filling of the vacancies due to the tin as the tin is replaced by the other substances, and to the formation of a solid solution of the type $A^{IV}_{BVI} - A^{IV}_{BVI}$, which occurs simultaneously as a result of partial substitution of the tin. At values $x \leq 0.02$, the predominant process is that of filling of the vacancies, while at $0.02 < x \leq 0.10$ the predominant process is formation of the solid solution, which leads to an increase in the concentration of the effects. The maxima on the dependence of the lattice thermal conductivity on the composition are due to healing of the defects. Slight differences occurring when lead is used as the substituting substance are attributed to the large mass and the ionic radius of the latter. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 19Nov65/ OTH REF: 003

Card 2/2 mbo

ACC NR: AP6033369

SOURCE CODE: UR/0249/66/022/004/0026/0028

AUTHOR: Abdullayev, G. B.; Nasirov, Ya. B.; Osmanov, T. G.

ORG: Institute of Physics (Institut fiziki)

TITLE: Thermoelectric properties of certain solid solutions of $\text{SnTe-Cu(As, Sb, Bi)Te}_2$

SOURCE: AN AzerbSSR. Doklady, v. 22, no. 4, 1966, 26-28

TOPIC TAGS: thermoelectric property, solid solution, tin compound, telluride

ABSTRACT: The authors study the behavior of SnTe in solid solutions of $[\text{SnTe}]_{1-x} - [\text{CuSbTe}_2]_x$ and $[\text{SnTe}]_{1-x} - [\text{CuBiTe}_2]_x$ at $x=0.01-0.10$. The ratio between the components is based on molecular percent. These same systems can be considered as $\text{SnTe-Cu}_2\text{Te-As}_2(\text{Sb}_2, \text{Bi}_2)\text{Te}_2$ solid solutions. All of the specimens used in the study were homogeneous and single-phase. The results show that two processes can take place in forming a system of multiple solid solutions using SnTe as a base with a small amount of the second component, specifically $\text{Cu(As, Sb, Bi)Te}_2$: 1. atoms or groups of atoms reduce defect concentration from lead in SnTe which is explained by the reduction in current

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ACC NR: AP6033369

carrier concentration and a certain increase in the thermoelectromotive force; 2. new defects appear during solid solution formation and are related to solid solution type. This produces an increase in current carrier concentration and a reduction in the thermal conductivity of the lattice when the second process predominates. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 19Nov65/ OTH REF: 002

Card 2/2

ACC NR: AP6034404

(A)

SOURCE CODE: UR/0249/66/022/006/0013/0014

AUTHOR: Abdullayev, G. B.; Nasirov, Ya. N.; Feyziyev, Ya. S.

ORG: Institute of Physics, Academy of Sciences, Azerbaydzhan SSR (Institut fiziki Akademii nauk AzerbSSR)

TITLE: Effect of partial replacement of germanium by lanthanum on the thermoelectric properties of GeTe

SOURCE: AN AzerbSSR. Doklady, v. 22, no. 6, 1966, 13-14

TOPIC TAGS: germanium tellurium alloy, germanium base alloy, tellurium containing alloy, thermoelectric property, LANTHANUM

ABSTRACT: The effect of partial replacement of germanium by lanthanum on the thermoelectric properties of GeTe has been investigated on specimens of $(\text{GeTe})_{1-x}(\text{LaTe})_x$ system alloy, where x is molar portion of the initial compounds in the range $x = 0.01-0.08$. The maximum thermal emf, maximum lattice heat conductivity and carrier mobility, and minimum carrier concentration were found in alloys with $x = 0.01$. It was established that the hole concentration at $x = 0.01$ decreases from about $6 \cdot 10^{20} \text{ cm}^{-3}$ for GeTe to $4.5 \cdot 10^{20}$ for compounds with $x = 0.01$ with a simultaneous increase of carrier mobility from $50 \text{ cm}^2/\text{v} \cdot \text{sec}$ to about $60 \text{ cm}^2/\text{v} \cdot \text{sec}$. The lattice heat conductivity is similarly affected by the composition. The authors presume that with a partial replacement of germanium by lanthanum in the alloys with $x = 0.01-0.08$, the defect concentration in Ge of GeTe takes place simultaneously.

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ACC NR: AP6034404

with the appearance of new defects due to the formation of solid solutions. The first process seems to be prevalent at $x = 0-0.01$ and the latter at $x \geq 0.02$. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: 03Jun66/ ORIG REF: 002/ OTH REF: 1/

Card 2/2

ACC NR: AP7002838

SOURCE CODE: UR/0233/66/000/004/0076/0081

AUTHOR: Antonov, V. B.; Nasirov, Ya. N.

ORG: none

TITLE: Investigation of the thermoelectric properties of GeTe-GeSe solid solutions

SOURCE: AN AzerbSSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk, no. 4, 1966, 76-81

TOPIC TAGS: germanium compound, selenide, telluride, solid solution, thermal emf, electric conductivity, thermal conduction, carrier density, hole mobility

ABSTRACT: In view of the lack of published data on the effect of partially replacing the tellurium atoms in GeTe on the thermoelectric properties of the latter, the authors investigated solid solutions GeTe-GeSe containing 5, 10, and 15% GeSe. The tests consisted of measuring the thermal emf, the electric conductivity, the thermal conductivity, and the carrier density. The results show that with increasing GeSe content the carrier density at room temperature changes very little, but the thermal emf changes appreciably, indicating a change in the effective mass of the state density. The change in thermal emf is from +44 to +50 $\mu\text{V/g}$. The conductivity decreases from 6000 to 4200 $\text{ohm}^{-1} \text{cm}^{-1}$, and the thermal conductivity decreases from 14.8 to 10.4 cal/cm-sec-deg . Measurements were also made of the temperature dependence of the thermal emf, the electric conductivity, the carrier density and the thermal conductivity, all of which were found to be temperature dependent. In partic-

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ACC NR: AP7002638

ular, the hole mobility (μ) varies like $T^{1.9}$ and T^2 for the solid solutions with 10% and 15% GeSe, respectively. This disagrees with the value $\mu \sim T^{3.2}$ predicted by the theory for scattering by acoustic lattice vibrations, probably because of the presence of both heavy and light holes in the solid solution. It is concluded that the anomalies observed in the thermoelectric properties of the solid solutions are evidence of the complex energy band structure of germanium telluride. The band structure does not change, but the numerical coefficients do change. It is also concluded that addition of GeSe increases the effectiveness of GeTe as thermocouple material and increases the optimum temperature for their use as thermocouples. The authors thank Professor G. B. Abdullayev for interest in the work and valuable advice. Orig. art. has: 7 figures and 2 tables.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001/ OTM REF: 001

Card 2/2

NASIROV, Z.I.

Mechanization of coremaking. Lit.proisv. no.21:42 N '61.

(MIRA 14:10)

(Coremaking—Equipment and supplies)

NASIROV, Z.I. ; KASUMZADE, N.G., red.; AKHMEDOV, S., tekhn. red.

[Highly efficient technological processes in foundry practice]
Vysokoproduktivnye tekhnologicheskie protsessy v chugunno-
litseinom proizvodstve. Baku, Azerneshr, 1962. 197 p.
(MIRA 15:6)

(Founding)

NASIROV, Z.I.

Calculating the rhythm of pouring in casting iron in chills.
Lit. proizv. no.7:39-42 J1 '63. (MIRA 17:1)

NASIKOVA L

L 18536-63 EWT(1)/FCG(w)/BDS/ES(v)/EEC-2 AFFTC/ASD/ESD-3/AFCC P1-4/

PO-4/Pq-4/Pe-4 PT-2/GW

ACCESSION NR: AF3001493

S/0202/63/000/003/0027/0031

AUTHORS: Nasyrova, L. I.; Savrukhn, A. P.

TITLE: Drift of meteoric trains observed visually in Ashkhabad, 1959-1960

SOURCE: AN TurkmSSR. Izv. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 3, 1963, 27-31

TOPIC TAGS: meteor, train, drift, ionosphere, wind

ABSTRACT: Observation of stable trains produced by meteors from the Perseid and Orionid streams were made in August and October of 1959 and 1960. The work was conducted for the purpose of investigating the winds at an altitude of 80-110 km. It was assumed that the trains were moving horizontally. Their altitudes were determined according to the method proposed by A. P. Savrukhn (Izvestiya AN TSSR, seriya FTKh i GN, No. 1, 1963). Parameters for each train were calculated and tabulated. Drift velocities are shown in Enclosure 1. Three-fourths of these velocities were in the range of 0-60 m/sec, and 18% in the range of 0-20 m/sec. Drift velocities greater than 150 m/sec were not shown because of unreliable observations. Since meteoric trains extend vertically for several

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L 18536-63

ACCESSION NR: AP3001493

2

kilometers, they allow an investigation of velocity variations with altitudes. These variations are presented graphically. Drift directions are shown on polar (Abstracter's note: gnomonic) charts. Southeast-northwest displacements predominated in August 1959; in August 1960 the prevailing direction was to the south and south-northeast-east; in October 1960 - west and northeast-east-southeast. During each of the three observation periods the trains were moving in diagonally opposite directions and the azimuths of drifts varied throughout each train's altitude. Orig. art. has: 1 table and 3 figures.

ASSOCIATION: Fiziko-tehnicheskiy institut AN Turkmensoy SSR (Institute of Physics and Technology, Academy of Sciences, Turkmenian SSR)

SUBMITTED: 25Dec62

DATE ACQ: 12Jun63

ENCL: 01

SUB CODE: AS

NO REF SOV: 004

OTHER: 000

Card 2/3

GUSEYNOV, G.A.; NASIROVA, R.A.

Effect of onion and garlic phytoncides on the phagocytic activity
of leucocytes. (in Azerbaijani with summary in Russian).

Ush. zap. AGU. Biol. ser. no.6:49-53 '60.

(Phytoncides)

(Phagocytosis)

DADASHEV, A.G.; NASIROVA, R.

Effect of ephedrine on interoceptive unconditioned metabolic reflexes under normal conditions and in hypothermia. Trudy Sekts. fiziol. AN Azerb. SSR 7:46-52 '63. (MIRA 17:10)

NASIROVA, T.

Servicing in the presence of preventive maintenance and restoring
devices. Izv. AN Azerb. SSR. Ser. fiz.-mat. i tekhn. nauk No. 6;
53-57 '63. (MIRA 17.3)

ACC NR: AT6027264

SOURCE CODE: UR/2877/65/000/003/0030/0032

AUTHOR: Nasirova, T. I.

ORG: none

TITLE: A nonstationary solution for the case of the possible failure of an instrument

SOURCE: AN AzerbSSR. Vychislitel'nyy tsentr. Trudy, v. 3. Baku, 1965, 30-32

TOPIC TAGS: reliability theory, stochastic process, Poisson distribution, Laplace transform

ABSTRACT: A probability study is made of the case in which an instrument or unit in an industrial process goes out of operation. Each unit is subject to Poisson requirements, and failure may occur during actual operation or during an idle interval. The periods of service are regarded as independent random variables having the same distribution. The following probabilities are found: $P_{00}(t)$ is the probability that at time t the unit is free and in good repair; $P_{10}(t)$ is the probability that at time t the unit is in use and in good repair; $P_{01}(t)$ is the probability that at time t the unit is undergoing repair. Orig. art. has: 20 formulas.

SUB CODE: ¹⁴⁶13,12/

SUBM DATE: none/

OTH REF: 002

Card 1/1

NASKALSKI, Jerzy; SZCZEPKOWSKI, W.

Coupling reaction of bilirubin with diazobenzenesulfonic acid.
Roczn chemii 37 no.6:629-634 '63.

1. Department of Physiological Chemistry, School of Medicine,
Krakow.

NASKALSKI, Jerzy; SZNAJD, Jan

Nucleolytic activity of the serum and urine in leukemias.
Pol. arch. med. wewnet. 35 no.4:497-502 '65.

Changes in the nucleolytic activity of the blood serum and
urine in leukemic leukocytosis. Ibid.:503-510

1.Z Pracowni Biochemicznej III Kliniki Chorob Wewnętrznych
Akademii Medycznej w Krakowie (Kierownik: prof. dr. med.
J. Aleksandrowicz).

ACC NR: AP6031249

SOURCE CODE: PO/0055/66/007/003/0299/0309

AUTHOR: Aleksandrowicz, Julian (Professor, Director, Doctor); Naskalski, Jerzy;
Sznajd, Jan; Urbanczyk, Jan

ORG: Department of Biochemistry, Third Clinic of Internal Medicine, Medical
Academy, Cracow

TITLE: Disorders of ribonuclease activity in chronic granulocytic leukemia

SOURCE: Acta medica polona, v. 7, no. 3, 1966, 299-309

TOPIC TAGS: rnase activity, leukemia, disease control, serology, enzymology, enzyme,
~~activity~~ blood disease, ribonuclease

ABSTRACT: Studies have been undertaken to elucidate the increased RNase activity in the urine of chronic granulocytic leukemia (cgl) patients. Included in the studies are 1) preliminary characterization of the factors responsible for serum and urinary nucleolytic activity; 2) search for interdependence between urinary and serum RNase activity and leukocytosis; 3) correlation between urinary and serum activity; 4) attempt to estimate the importance of the kidneys in disorders of RNase activity in leukemias on the bases of renal-function studies. Thirty-five clinical patients with cgl participated in the experiment; for

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ACC NR. AP6031249

comparison, there were 20 patients with lymphatic leukemia (ll) and 20 patients with myeloblastic leukemia (ml). The control consisted of 150 healthy people. The serum and urinary activity was determined by the orcinol method, and later by the spectrophotometric method. AcPase activity was determined by the Bessey method; creatine and serum nonprotein nitrogen were assayed by the methods of Jeffrey and Rappaport, respectively. The results were 1) Agreement of nucleolytic activity of serum and urine with well-known properties of ribonuclease was shown. 2) Serum RNase activity was markedly elevated both in the serum and in the urine of the patients. 3) AcPase activity was comparable in both groups. 4) There was a marked correlation between levels of serum and urinary RNase activity in the patients. In cgl, less pronounced correlation indicated disorders in the excretion of RNase. 5) RNase clearance values in cgl were shown to be neither dependent upon serum RNase activity nor related to the levels of leukocytosis. 6) A distinct correlation between leukocytes and RNase activity, described by the following formula, was shown:
where Y is the serum RNase activity in $\mu\text{g/ml}$ and X is cgl leukocyte count in thousands. Maximal RNase activity occurred in range of low leukocytosis (around 3000) and highest leukocytosis (100,—300,000). Lowest values of RNase occurred

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ACC NR: AP6031249

in range of leukocytosis from 10,000—300,000. Experiments indicate that there is a state of equilibrium between RNase activity and level of leukocytosis in cgl. As a result, high levels of leukocytosis are accompanied by high RNase activity. The occasional drop in the leukocyte level is explained by a negative feedback relationship. This hypothesis supports the view that leukocytes are a source of serum RNase. The authors express their indebtedness to Miss Olga Sobajko for technical assistance.

[WA-50; CBE No. 12]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 013/

Cord. 3/3

Biochemistry

POLAND

PO/0055/66/007/003/0299/0309

AUTHOR: Aleksandrowicz, Julian (Professor, Director, Doctor); Naskalski, Jerzy;
Sznajd, Jan; Urbanczyk, Jan

ORG: Department of Biochemistry, Third Clinic of Internal Medicine, Medical
Academy, Cracow

TITLE: Disorders of ribonuclease activity in chronic granulocytic leukemia

SOURCE: Acta medica polona, v. 7, no. 3, 1966, 299-309

TOPIC TAGS: rnase activity, leukemia, disease control, serology, enzymology, enzyme,
blood disease, ribonuclease

ABSTRACT: Studies have been undertaken to elucidate the increased RNase
activity in the urine of chronic granulocytic leukemia (cgl)
patients. Included in the studies are 1) preliminary char-
acterization of the factors responsible for serum and urinary
nucleolytic activity; 2) search for interdependence between
urinary and serum RNase activity and leukocytosis; 3) correla-
tion between urinary and serum activity; 4) attempt to estimate
the importance of the kidneys in disorders of RNase activity in
leukemias on the bases of renal-function studies. Thirty-five
clinical patients with cgl participated in the experiment; for

1/3

2/3

8

NASKIDASHVILI, G.S.

In Adzharistan. Zashch. rast. ot vred. i bol. 8 no.12:12-14 D '63.

(MIRA 17:3)

1. Starshiy agronom po zashchite rasteniy Chakvskogo proizvodstvenno-go upravleniya.

NASKIDASHVILI, I. A.

Effect of admixtures of copper and aluminum on the temperature dependence of the self-diffusion coefficient in monocrystals of zinc along different crystallographic directions. I. A. Naskidashvili (Inst. Phys., Acad. Sci. Georgian S.S.R., Tiflis). Soobshcheniya Akad. Nauk Gruzii. S.S.R. 14, No. 7, 509-16 (1955) (in Russian).--The monocrystal specimens of Zn-Cu and Zn-Cu-Al with 0-0.5% Cu and 0.0-0.5% Al were examined as to self-diffusion coeffs. along the hexagonal axis of the crystals and along the C axis, the γ radiation of Zn^{65} being used as the tracer indicator. The anisotropy of self-diffusion of pure Zn drops significantly as the m.p. is approached. Addn. of Cu results in progressive increase of the self-diffusion coeff. along both axes with decreased anisotropy. Al reduces self-diffusion along both axes and does not alter anisotropy. The results are correlated with probable changes in the unit cell after soln. of Cu and Al.

(Clipped Abstract)

G. M. Kosolapoff

ADW

SOV/137-57-11-22217 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 222 (USSR)

AUTHOR: Naskidashvili, ^{I. A.} ~~A. A.~~

TITLE: ~~Investigation of the Relationship of the Coefficient of Self-diffusion of Zinc and the Degree of Anisotropy of Self-diffusion to the Concentration of Impurities~~ (Issledovaniye zavisimosti koeffitsiyenta samodiffuzii tsinka i stepeni anizotropii samodiffuzii ot kontsentratsii primesey)

ABSTRACT: Bibliographic entry on the Author's dissertation for the degree of Candidate of Physical-Mathematical Sciences, presented to the Tbilissk. un-t (Tbilisi University), Tbilisi, 1957

ASSOCIATION: Tbilissk. un-t (Tbilisi University), Tbilisi

Card 1/1

S

AUTHORS: Maskidashvili, I. A., and Dzidzishvili, V. M.

TITLE: Diffusion of silver in single crystals of zinc.

SOURCE: Akademiya Nauk Gruzinskoy SSR, Institut fiziki, No. 10, 1979, pp. 97-104 (In Georgian, with 1 page Russian résumé).

TEXT: Laboratory tests on the diffusion of silver in Zn single crystals in two principal crystallographic directions as a function of the temperature of diffusion annealing are reported. Single crystals of Zn (99.98% pure) were prepared by the modified Bridgman method. From single-crystal rods 7-8 mm in diameter, the basal plane (0001) was oriented along the rod axis. Rectangular specimens $25 \times 60 \times 2 \text{ mm}^3$ were cut so that the $25 \times 60 \text{ mm}^2$ face perpendicular to the rod axis was perpendicular to the basal plane; that face was covered with a thin layer of active silver. One- to four-day annealing was performed at $500 \pm 1^\circ \text{C}$ on pairs of specimens in contact with one another along the lateral surface. Following a water quench the lateral surfaces were regolithed to remove any surface-diffusion products, and the diffusion coefficient was determined by layerwise removal (by grinding) and by measuring the difference in specimen before and after removal of the layer. In the temperature

Card 1/2

MASKIDASHVILI, I.A.; GVAKHARIYA, V.M.; GORDADZE, G.P.: TOKVI, I.G.

Gamma-ray relay with a magnetic amplifier. *Biul.tekh.-ekon.inform.-*
Gos.nauch.-issl.inst.nauch. i tekhn.inform. no.4:43-44 '62.

(MIRA 15:7)

(Electric relays)

MASKIDASHVILI, I.A.; DOLIDZE, V.M.; MAYSURADZE, N.A.

Effect of a small amount of impurities on the self-diffusion
rate of zinc. Trudy Inst.fiz.AN Grus.SSR 8:231-242 '62.

(MIRA 16:2)

(Zinc—Metallurgy)

ELIAVA, A.Kh.; NASKIDASHVILI, I.A.

All-Union seminar on radioisotope measuring equipment. Avt.
prom. 29 no.7:46-47 JI '63. (MIRA 16:8)

(Measuring instruments)
(Radioisotopes—Industrial applications)

NASKIDASHVILI, I. D., MOGULISHVILI, L. K., GVAKHARIA, V. V., ABASHIDZE, K. A.,
BOGDAVADZE, N. V., and CHANTLADZE, T. L.

"Neutron Activation Analysis of Manganese Ore"

paper presented at the All-Union Seminar on the Application of
Radioactive Isotopes in Measurements and Instrument Building,
Frunze (Kirgiz SSR), June 1961)

So: Atomnaya Energiya, Vol 11, No 5, Nov 61, pp 468-470

CZECHOSLOVAKIA/General Problems of Pathology. Immunity

U-1

Abstr Jour : Ref Zhur - Biol., No 13, 1958, No 60935

Author : Naskova Vera

Last : -

Title : Adaptive Stage of Heterologous Antigens in the Ontogenesis of Ducks

Orig Pub : Ceskosl. biol., 1957, 6, No 2, 81-86

Abstract : The adaptation period of duck, in relation to heterologous erythrocytes (geese or chicks erythrocytes) lasts 6 to 13 days after hatching. In order to produce an adaption to a heterologous antigen (H₁), a sufficient amount of H₁ has to be introduced, and a long-drawn effect allowed. A single dose introduction of 0.3 milliliters of goose blood is not effective, an introduction of 3 doses (three times) depressed the production of heteroagglutinins. Efforts to prolong the survival of a hetero-transplant by an introduction of homogeneous blood during the adaption period, failed. Homo-transplants grafted to ducks during the first 5-7 days, survived.

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